

特性 Features

- 20A触点切换能力 20A Contact Switching Capability
- 最大持续30A过流能力可选 Max 30A Carrying Current Optional
- 高灵敏度可选 High sensitivity optional
- 实现冲击负载电流60A、载流35A的小型汽车继电器 Miniature Automotive Relay with 60A Surge Current and 35A Carrying Current.
- 外形尺寸 Outline dimension (15.7x12.3x14)mm



典型应用 Application

- 中央门锁, 车镜调整, 转向灯控制, 自动门窗, 座椅调整, 限速信号控制, 预热控制, 雨刮控制, 油泵控制。 Central door lock, mirror adjustment, turn signal control, automatic door and window, seat adjustment, speed limit signal control, preheat control, wiper control, oil pump control.

触点参数 Contact Data

触点形式 Contact Arrangement	1A, 1C
触点额定 Contact Rating	7A 120VAC NO:20A 14VDC NC:12A 14VDC
最大切换电压 Max. Switching Voltage	250VAC/16VDC
最大切换电流 Max. Switching Current	25A
最大持续承载电流 Max. Carrying Current	30A(仅对-E版本 Only For -E Type)
触点材质 Contact Material	银合金 Ag alloy
接触电阻 Contact Resistance	Max.100mΩ (1A 5VDC)
动作/释放时间 Operate Time/ Release Time	≤10ms/≤5ms
最小切换负载 Min. switching load	100mA 5V
电耐久性 Electrical Endurance	见下表See table below
机械耐久性 Mechanical Endurance	1*10 ⁷ ops. (最大转换频率: 18000次/小时 Maximum conversion frequency: 18000 times/hour)
最大切换功率 Max. Switching Power	840VA/280W

线圈参数 Coil Data (标准型 Standard)

线圈电压范围 Coil Voltage Range	6~24 VDC
容许最大电压 Max. Continuous	额定电压的170% 170% of Rated Voltage
额定线圈功率 Coil Rating Power	0.8W

线圈参数 Coil Data (灵敏型 Sensitivity)

线圈电压范围 Coil Voltage Range	6~24 VDC
容许最大电压 Max. Continuous	额定电压的170% 170% of Rated Voltage
额定线圈功率 Coil Rating Power	0.6W

性能参数 Characteristics

绝缘电阻 Insulation Resistance		100MΩ Min (at 500VDC)
介质耐压 Dielectric Strength	断开触点间 Between Open Contacts	500Vrms 1min
	线圈与触点间 Between Coil and Contact	500Vrms 1min
温度范围 Temperature Range		-40~+85°C
湿度 Ambient Operating Humidity		35% ~ 85%RH
振动 Vibration Resistance		10Hz-55Hz, at double amplitude 1.5mm 频率 10Hz-55Hz, 双振幅 1.5mm
冲击 Shock	稳定性 Functional	10G
	强度 Destructive	100G
重量 Weight		Approx.6g

线圈规格 Coil Voltage Specifications (标准型 Standard)

额定电压 Nominal Coil VDC	动作电压 Must Operate VDC	释放电压 Release Coil VDC	线圈电阻 Coil Resistance Ω(±10%)
6	3.90	0.48	45
9	5.85	0.72	101
12	7.80	0.96	180
24	15.6	1.92	720

线圈规格 Coil Voltage Specifications (灵敏型 Sensitivity)

额定电压 Nominal Coil VDC	动作电压 Must Operate VDC	释放电压 Release Coil VDC	线圈电阻 Coil Resistance Ω(±10%)
6	3.90	0.48	60
9	5.85	0.72	135
12	7.80	0.96	240
24	15.6	1.92	960

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线圈参数 Coil Data (超灵敏型 Super Sensitivity)	
线圈电压范围 Coil Voltage Range	6~24 VDC
容许最大电压 Max. Continuous	额定电压的170% 170% of Rated Voltage
额定线圈功率 Coil Rating Power	0.36W

注 Note:

a) 所有数值均为在环境温度+23℃下未预通电的线圈 All the performance data are for coils that are not pre energized at 23℃ ambient temperature.

线圈规格 Coil Voltage Specifications (超灵敏型 Super Sensitivity)			
额定电压 Nominal Coil	动作电压 Must Operate	释放电压 Release Coil	线圈电阻 Coil Resistance
VDC	VDC	VDC	Ω(±10%)
6	3.90	0.48	100
9	5.85	0.72	225
12	7.80	0.96	400
24	15.6	1.92	1600

注 Note:

a) 以上值为初始值 All the performance data are initial values.

b) 线圈电阻是在线圈温度23℃，公差为±10% Coil resistance is tested at 23℃ ambient temperature, ±10% tolerance.

触点负载电 Contact load voltage	负载类型Load type		触点负载电流Contact load current (A)			通断比On-off ratio		电耐久性 Electrical durability (次 ops)	触点接线图 Contact wiring diagram
			1C		1A	接通ON S	断开OF S		
			常开NO	常闭NC	常开NO				
14VDC	阻性resistivity	接通ON	20	10	20	2	2	2×10 ⁵	图1
		断开OFF	20	10	20				
		接通ON	30	—	30	2	2	1×10 ⁵	图2
		断开OFF	30		30				
	电机锁定 Motor locking	接通ON	25 ⁽³⁾	—	25 ⁽³⁾	0.2	2	1×10 ⁵	图3
		断开OFF	25 ⁽³⁾		25 ⁽³⁾				
	灯Lamp ⁽¹⁾	接通ON	90 ⁽²⁾	—	90 ⁽²⁾	1	9	1×10 ⁵ (85°C)	图4
		断开OFF	8.8		8.8				
		接通ON	6×21W	—	6×21W	1	6	1×10 ⁵	图4
		断开OFF							
	闪光灯Flash lamp	接通ON	3×21W	—	3×21W	0.365	0.365	2×10 ⁶	图5
		断开OFF							

备注：（1）电耐久性是采用其中的常开触点或者常闭触点进行测试的数据。
Note: (1) Electrical durability is tested using the normally open contact or normally closed contact.

图1 Figure 1

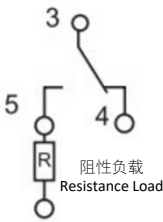


图2 Figure 2

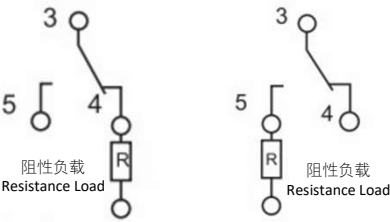


图3 Figure 3

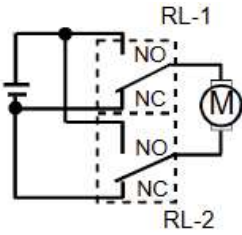


图4 Figure 4

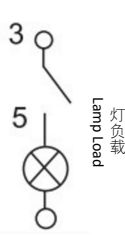


图5 Figure 5



注 Note:

(1) 当用于闪光灯负载时，须按图5极性要求接线，并须采用特殊触点； When used for flash load, it must be connected according to the polarity requirements of Figure 5, and special contacts must be used;

(2) 初始灯丝尖峰冲击电流 Initial filament peak impulse current ;

(3) 电机锁定浪涌电流The motor locks the inrush current ;

(4) 触点接线图如下所示（常开、常闭负载测试采用不同样品分开测试） The contact wiring diagram is shown below (normally open and normally closed load tests are conducted separately with different samples).

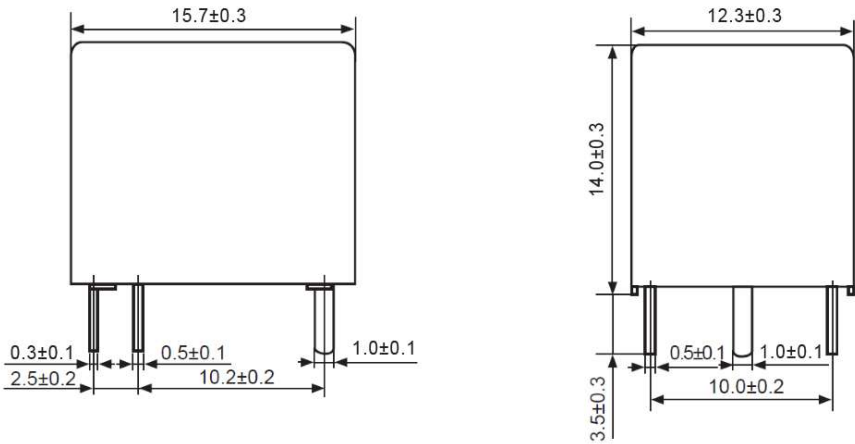
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型号命名标准 Model Number Legend

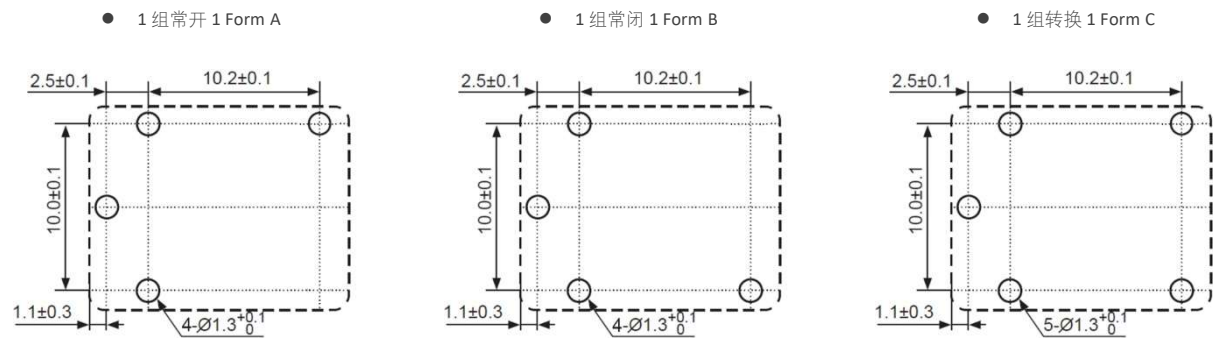
	ST78	-12	H	A	S	T	XXX
基本型号 Basic Type:	ST78						
线圈电压 Coil Voltage:	6, 9, 12, 24VDC						
线圈功耗 Coil Power:	Blank: 0.36W; H: 0.6W; GH: 0.8W						
触点结构 Contact Arrangement:	Blank: 1组转换 1 Form C; A: 1组常开 1 Form A; B: 1组常闭 1 Form B						
防护构造 Protective Construction:	V: 耐助焊剂型 Flux Tight; S: 塑料密封型 Sealed						
耐温等级 Temperature Resistance Class:	Blank: 85°C; T: 105°C						
特殊特性 Special Characteristic:	Blank:标准型Standard; -E: 30A 承载电流产品 30A Carrying Current Type; ,XXX: 客户特殊特性号 Customer Special Feature Number						

外形尺寸、PCB 布局、接线图 Outline Dimensions, PCB Layout, Wiring Diagram (mm)

外形尺寸 Outline Dimensions



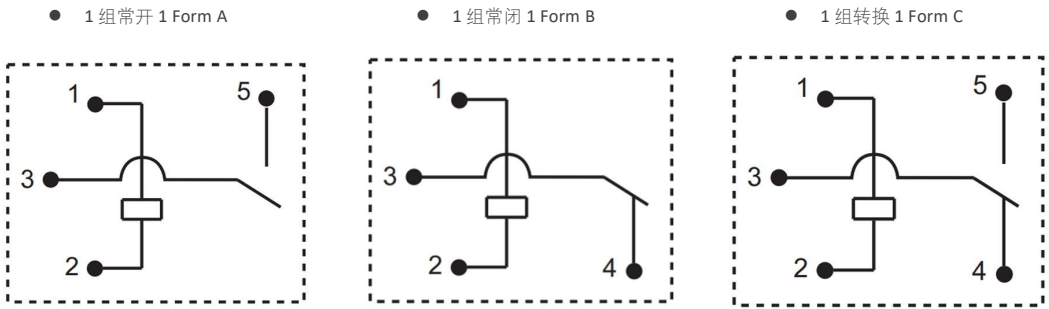
印刷线路板加工尺寸 PCB Outline Dimension Bottom View



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外形尺寸、PCB 布局、接线图 Outline Dimensions, PCB Layout, Wiring Diagram (mm)

◆ 接线图 Wiring Diagram Bottom View



注 Note:
未注尺寸公差 Unspecified tolerance : <1mm: ±0.2 mm, 1~5 mm: ±0.3mm, >5mm: ±0. 5mm ;
安装孔尺寸中未注尺寸公差为± 0.1 mm PC board layout dimensions hadn't specified tolerance is ±0.1mm.

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